



ICC CODES - PUBLIC COMMENT FORM

FOR PUBLIC COMMENTS ON THE 2003/2004 "REPORT OF THE PUBLIC HEARINGS"

PLEASE SEE INSTRUCTIONS (SUBMITTAL RULES OF PROCEDURES). ALL SUBMITTALS MUST BE IN COMPLIANCE WITH THESE PROCEDURES.

CLOSING DATE: All Comments Must Be Received On or Before January 14, 2004

- 1) **Indicate the format in which you would like to receive your Final Action Agenda (FAA):** ☒ Paper ☐ Electronic ☐ *Download
 (*Note: A paper copy will not be sent to you if you have chosen to download the FAA from the ICC Web Site.)

- 2) **PLEASE TYPE OR PRINT CLEARLY: FORMS WILL BE RETURNED if they contain unreadable information.**

Name:	Ronald Majette				Date:	January 14, 2004	
Jurisdiction/Company:	U.S. Department of Energy						
Submitted on Behalf of:	U.S. Department of Energy						
Address:	1000 Independence Avenue, EE-2J, 1J-018						
City:	Washington	State:	DC	Zip +4:	20585		
Phone:	202-586-7935	Ext:		Fax:	202-486-4617		
e-mail:	ronald.majette@ee.doe.gov						

- 3) ***Signature:** _____

*I hereby grant the International Code Council the nonexclusive, royalty-free rights, including nonexclusive, royalty-free rights in copyright in this Comment and I understand that I acquire no rights in any publication of International Code Council (ICC), in which this Comment in this or another similar analogous form is used. I hereby attest that I have the authority and I am empowered to grant this copyright release.

- 4) Indicate the Code Change Proposal # that is being addressed by this Public Comment: EC48-03/04 – IECC portion

- 5) I (we) ☒ do ☐ do not agree with the recommendation of the Code Committee

- 6) **COMMENT – The Final Action I (we) request on the indicated Code Change Proposal is: (check BOX):**

<input type="checkbox"/> Approved as Submitted (AS):	<input checked="" type="checkbox"/> Approved as Modified by this Public Comment (AMPC):	<input type="checkbox"/> Approved as Modified by the Code Committee as Published in the ROH (AM):	<input type="checkbox"/> Approved as Modified by Assembly Action as Published in the ROH (AMAA):	<input type="checkbox"/> Disapproved (D):
--	---	---	--	---

- 7) **Proposed Modification:**

Table 102.1.3(1).

U-Factor Default Table for Windows, Glazed Doors And Skylights

Frame Material and Product Type*	Single Glazed	Double Glazed
Metal without thermal break:		
–Curtain wall	1.22	0.79
–Fixed	1.13	0.69
–Garden window	2.60	1.81
–Operable (including sliding and swinging glass doors)	1.27	0.87
–Site assembled sloped/overhead glazing	1.36	0.82
–Skylight	1.98	1.31
Metal with thermal break:		
–Curtain wall	1.11	0.68
–Fixed	1.07	0.63
–Operable (including sliding and swinging glass doors)	1.08	0.65
–Site assembled sloped/overhead glazing	1.25	0.70
–Skylight	1.89	1.11
Reinforced vinyl/metal clad wood:		
–Fixed	0.98	0.56
–Operable (including sliding and swinging glass doors)	0.90	0.57
–Skylight	1.75	1.05

Wood/vinyl/fiberglass:		
–Fixed	0.98	0.56
–Garden window	2.31	1.61
–Operable (including sliding and swinging glass doors)	0.89	0.55
–Skylight	1.47	0.84

a. Glass block assemblies with mortar but without reinforcing or framing shall have a U-factor of 0.60.

Table 102.1.3(1).
Default Glazed Fenestration U-Factors

Frame Type	Single	Double	Skylight	
	Pane	Pane	Single	Double
Metal	1.20	0.80	2.00	1.30
Metal with Thermal Break	1.10	0.65	1.90	1.10
Non-Metal or Metal Clad	0.95	0.55	1.75	1.05
Glazed Block	0.60			

Table 102.1.3(2).
U-Factor Default Table For Nonglazed Doors

Door Type	Without Foam Core	With Foam Core
Steel doors (1.75 inches thick)	0.60	0.35
	Without Storm Door	With Storm Door
Wood doors (1.75 inches thick)		
–Panel with 0.438 inch	0.54	0.36
–Hollow Core flush	0.46	0.32
–Panel with 1.125 inch	0.39	0.28
–Solid core flush	0.40	0.26

Table 102.1.3(2).
Default Door U-Factors

Door Type	U-factor
Uninsulated Metal	1.20
Insulated Metal	0.60
Wood	0.50
Insulated, non-metal edge, max 45% glazing, any glazing double pane	0.35

Table 102.1.3(3)
SHGC Default Table for Fenestration

Product Description	Single Glazed				Double Glazed			
	Clear	Bronze	Green	Gray	Clear + Clear	Bronze + Clear	Green + Clear	Gray + Clear
Metal frames								
Fixed	0.78	0.67	0.65	0.64	0.68	0.57	0.55	0.54
Operable	0.75	0.64	0.62	0.61	0.66	0.55	0.53	0.52

Nonmetal frames								
Fixed	0.75	0.64	0.62	0.61	0.66	0.54	0.53	0.52
Operable	0.63	0.54	0.53	0.52	0.55	0.46	0.45	0.44

Table 102.1.3(3).
Default Glazed Fenestration SHGC

Single Glazed		Double Glazed		Glazed
Clear	Tinted	Clear	Tinted	Block
0.7	0.6	0.6	0.5	0.6

102.4 Equipment labeling. Heating, cooling and service water heating equipment with equipment efficiency regulated as an AFUE, HSPF, SEER or EF shall have the efficiency specified on a permanent factory-applied nameplate.

Exception: Equipment assembled in the field.

103.1.1 Above code programs. The code official or other authority having jurisdiction shall be permitted to deem a national, state or local energy efficiency program to exceed the energy efficiency required by this code. Buildings approved in writing by such an energy efficiency program shall be considered in compliance with this code.

402.2.2 Ceilings without attic spaces. Where Section 402.1 would require insulation levels above R-30 and the design of the roof/ceiling assembly does not allow sufficient space for the required insulation, the minimum required insulation for such roof/ceiling assemblies shall be R-30. This reduction of insulation from the requirements of Section 402.1 shall be limited to 500 ft² of ceiling area.

402.2.4 Steel-frame ceilings, walls and floors. Steel-frame ceilings, walls and floors shall meet the insulation requirements of Table 402.2.4 or shall meet the wall-U-factor requirements in Table 402.1.2. The calculation of the U-factor for a steel-frame wall-envelope assembly shall use a series-parallel path calculation method.

402.5.1 Maximum fenestration U-factor and SHGC. The area-weighted average maximum fenestration U-factor permitted using tradeoffs from Section 402.1.3 or Section 404 in zones 4 through 8 shall be 0.40. The area-weighted average maximum fenestration SHGC permitted using tradeoffs from section 404 in zones 1 through 3 shall be 0.50.

403.1.2 Heat pump auxiliary heat. Heat pumps having supplementary electric resistance heaters shall have controls that prevent heater operation when the heating load is capable of being met by the heat pump. Except when necessary to assist the heat pump operation, supplemental heater operation is not only allowed except during outdoor coil defrost cycles not exceeding 15 minutes.

Table 402.1.

Insulation and Fenestration Requirements by Component^(a)

Climate Zone	Fenestration U-Factor	Skylight ^(b) U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement ^(c) Wall R-Value	Slab ^(d) R-Value & Depth	Crawl Space ^(c) Wall R-Value
1	1.20	0.75	0.40	30	13	3	13	0	0	0
2	0.75	0.75	0.40	30	13	4	13	0	0	0
3	0.65	0.65	0.40 ^(e)	30	15	5	19	5 0	0	5/13
4 except Marine	0.40	0.60	NR	38	15	5	19	10 / 13	10, 2 ft	10 / 13
5 and Marine 4	0.35	0.60	NR	38	21 or 15+5 ^(g)	13	25 30 ^(f)	10 / 13	10, 2 ft	10 / 13
6	0.35	0.60	NR	49	21 or 15+5 ^(g)	15	30 ^(f)	10 / 13	10, 4 ft	10 / 13
7 and 8	0.35	0.60	NR	49	21	19	30 ^(f)	15 10 / 21 13	15 10, 4 ft	10 / 13

- (a) R-values are minimums. U-factors and SHGC are maximums. R-19 shall be permitted to be compressed into a 2x6 cavity.
(b) The fenestration U-factor column excludes skylights. The SHGC column applies to all glazed fenestration.
(c) The first R-value applies to continuous insulation, the second to framing cavity insulation; either insulation meets the requirement.
(d) R-5 shall be added to the required slab edge R-values for heated slabs.
(e) There are no SHGC requirements in the Marine zone.
(f) Or insulation sufficient to fill the framing cavity, R-19 minimum.
(g) "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, R-5 sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.

Table 402.1.2.

Equivalent U-Factors^(a)

Climate Zone	Fenestration U-Factor	Skylight U-Factor	Ceiling U-Factor	Frame Wall U-Factor	Mass Wall U-Factor	Floor U-Factor	Basement Wall U-Factor	Crawl Space Wall U-Factor
1	1.20	1.60 0.75	0.035	0.082	0.197	0.064	0.360	0.477
2	0.80 0.75	1.05 0.75	0.035	0.082	0.165	0.064	0.360	0.477
3	0.60 0.65	0.90 0.65	0.035	0.082	0.141	0.047	0.360	0.136
4 except Marine	0.40	0.60	0.030	0.082	0.041	0.047	0.059	0.065
5 and Marine 4	0.35	0.60	0.030	0.060	0.082	0.037 3	0.059	0.065
6	0.35	0.60	0.026	0.060	0.059 60	0.033	0.059	0.065
7 and 8	0.35	0.60	0.026	0.057	0.053 57	0.033	0.041 59	0.057 0.065

- (a) Non-fenestration U-factors shall be obtained from measurement, calculation or an approved source.

Table 404.5.2(1)

Specifications for the Standard Reference and Proposed Designs

Building Component	Standard Reference Design	Proposed Design
Glazing: ^(a)	Total area ^(b) = proposed glazing area 18% of conditioned floor area Orientation: equally distributed to four (4) cardinal compass orientations (N, E, S, &W)	As proposed As proposed

Building Component	Standard Reference Design	Proposed Design
	U-factor: from Table 402.1.2 SHGC: from Table 402.1 except that for climates with no requirement (NR) SHGC = 0.55 shall be used Interior shade fraction: Summer (all hours when cooling is required) = 0.70 Winter (all hours when heating is required) = 0.85 External shading: none	As proposed As proposed Same as Standard Reference Design ^(c) As proposed

(Remainder of Table 404.5.2(1) unchanged)

803.2.5.1 Energy recovery ventilation systems.

...

6. Heating systems in climates ~~with less than 3600 HDD~~ in climate zones 1 through 3.
(otherwise unchanged)

803.3.10 Energy recovery ventilation systems.

...

6. Heating systems in climates ~~with less than 3600 HDD~~ in climate zones 1 through 3.
(otherwise unchanged)

☐ Modification Continued (Attach additional sheets as necessary)

8) **REASON** (State reason and provide substantiation to support the Comment):

The U.S. Department of Energy (DOE) has worked for the past decade to promote the International Energy Conservation Code (IECC). In response to repeated comments that the residential IECC was difficult to understand and implement, and expensive to enforce, DOE worked extensively with many interested parties to develop a more usable energy code. The result was EC48, a revision to the energy code replacing the first six chapters of the IECC and the energy chapter of the International Residential Code (IRC). At this fall's Code Development Hearings (the "first hearing"), this improved energy code was approved overwhelmingly for both the IECC and the IRC by votes in five ICC committees. The result of the first hearing is a much more usable energy code.

Aligning the IECC and IRC was one goal of DOE's original change proposal. Most of DOE's public comment for the Final Action Code Hearing (the "second hearing") is designed to realign the IECC and IRC where floor amendments at the first hearing were made to one I-code and not the other. Nothing proposed herein makes a substantial modification to any major part of EC48. A few of the changes here correct editorial errors.

Because the focus of this public comment is consistency between the IECC and IRC, the same reason is being submitted for both the IECC and IRC. The individual changes are discussed roughly in the order they occur in the code, as approved at the first hearing.

Default fenestration U-factors and SHGC.

EC48 proposed a more usable and condensed set of fenestration defaults for U-factor and SHGC. In the first hearing, the EC48 default window U-factor and SHGC tables for unrated products were replaced by amendment in both IECC and IRC with the existing 2003 IECC tables. In the IECC (only), the 2003 IECC default door U-

factors were also restored. In seeking ways to align the I-codes DOE has learned that the proponents of those amendments desired default tables with more product categories than EC48 originally proposed. This public comment includes streamlined default tables that add additional product types not originally in EC48 (thermally broken windows, door table in the IRC), track the existing defaults more closely for skylights, better cover the range of doors (originally only covered doors 1.75 inches thick), eliminate some uncertainty in the SHGC table (dependency on the glass color), and are formatted to better fit the simplicity of EC48. (Replaces IECC Tables 102.1.3(1), 102.1.3(2), and 102.1.3(3). Replaces IRC Tables N1101.5(1) and N1101.5(2). Conforming modification made to the text referencing the table in IRC N1101.5.)

Efficiency label on HVAC equipment.

The EC48 requirement for a permanent efficiency label on HVAC equipment probably created a conflict with FTC rules and was eliminated by amendment in the IRC. DOE's proposed second-hearing change removes the same requirement from the IECC. (Removes IECC 102.4.)

Above code program recognition.

The EC48 provision giving explicit authority for a jurisdiction to recognize above-code energy-efficiency programs was removed in the IECC, but retained in the IRC. DOE's proposed second-hearing change makes the IECC and IRC consistent by restoring the explicit option in the IECC. (Add IECC 103.1.1.)

Certificate location.

A minor discrepancy on where the certificate on home energy efficiency features should be posted was introduced by a first-hearing amendments. The IRC is modified to match the IECC. (Modify IRC N1101.8.)

Cathedral ceiling exemption.

In EC48 the requirement for ceiling insulation greater than R-30 was relaxed to R-30 where framing members are too small to fit the full height of the insulation. In the first hearing this exemption was removed from the IECC, but retained in the IRC. DOE's proposed second-hearing change is a compromise that limits the exemption to 500 ft² in both codes. (Add IECC 402.2.2. Modify IRC N1102.2.2)

Steel framing.

DOE's second-hearing change proposal makes editorial improvements in the section on steel framing in both the IECC and IRC. (Modify IECC 402.2.4. Modify IRC N1102.2.4.)

Impact resistant fenestration.

EC48 exempted impact resistant fenestration from the U-factor requirements in some zones because commercial products were generally lacking. A first-hearing amendment removed the exemption from the IECC, but not the IRC. Because commercial products are now available, DOE proposes that the exemption be removed from the IRC. (Delete IRC N1102.3.7.)

Prescriptive HVAC tradeoffs.

The EC48 prescriptive HVAC tradeoffs were deleted in the IECC and reduced in the IRC. To make the two codes consistent, DOE proposes that the remaining table and associated text be deleted from the IRC. (Delete IRC N1102.1.4 and Table N1102.1.4.)

Maximum fenestration tradeoffs.

The section is clarified in both codes to require an "area-weighted average". (Modify IECC 402.5.1. Modify IRC N1102.5.1)

Heat pump controls text.

Confusing 2003 IECC language on heat pump controls was changed by an unrelated first-hearing code change (EC17). This had the effect of resurrecting text that had been deleted as unnecessary in the context of DOE's

first-hearing change proposal. No comparable text was added to the IRC; therefore the IECC section affected by EC17 should be deleted. (Delete IECC 403.1.2.)

Window and Skylight U-factors.

Prescriptive window and skylight U-factor requirements in EC48 were modified in the south by a first-hearing floor amendment in the IECC. However, only one table of two that govern the U-factors was modified. The window U-factor changes were small, designed to better accommodate aluminum frames. The southern skylight U-factors were lowered, consistent with DOE's goal of better accommodating cooling concerns in the energy code. DOE's second-hearing proposal is to make the other IECC table and the two IRC tables consistent with the first-hearing IECC floor changes. (Modify fenestration and skylight U-factors in IECC Table 402.1.2; and IRC Tables N1102.1 and N1102.1.2.)

Southern basement insulation.

A southern climate zone in EC48 was amended to require basement insulation in the IECC, but not the IRC. Because basement insulation is of marginal value in much of this zone, DOE is proposing that the IECC and IRC be made consistent by removing the IECC basement insulation requirement in zone 3. (Modify zone 3 basement insulation IECC Table 402.1.)

Insulation values changed.

DOE is proposing a few changes to both the IECC and IRC for reasons of practicality. The floor insulation requirement in zone 5 of R-25 should become R-30. This will eliminate the only occurrence of R-25 in the code. Note that the higher value, per the table footnote, would not be required if it caused an increase in framing size. (Modify zone 5 floor values in IECC Tables 402.1 and 402.1.2. Modify zone 5 floor values in IRC Tables N1102.1 and N1102.1.2.)

R-15 foundation insulation may lead to a thick outside "lip" which is difficult to protect, so DOE is proposing that basement and slab insulation requirements be reduced to R-10 in the extreme northern zones. (Modify zone 7/8 basement and slab R-values in IECC Tables 402.1 and 402.1.2. Modify zone 7/8 basement U-factors in Tables N1102.1 and N1102.1.2.)

U-factor table discrepancies.

Unintentional discrepancies were introduced into IECC and IRC tables by a first-hearing floor amendment, making mass-wall U-factors more stringent than frame-wall U-factors in northern zones. These mass-wall U-factors should be set equal to the corresponding frame-wall U-factors. (Modify mass wall U-factors in IECC Table 402.1.2 and IRC Table N1102.1.2)

A discrepancy in the U-factor tables for crawl space walls was also introduced in a first-hearing IECC floor amendment. No discrepancy was introduced into the IRC. (Modify zone 7/8 crawl space wall U-factor in IECC Table 402.1.2)

Performance approach window area.

One element of the EC48 performance calculation (IECC only), the standard-design window area, was changed by floor amendment in the first hearing. DOE proposes that the IECC revert to the original proposed value (18% of conditioned floor area) to maintain consistency with several beyond-code programs that tend to make use of the same or similar software as is used for performance-based code compliance. (Modify IECC Table 404.5.2(1).)

Unvented crawl space text.

Editorial improvements are proposed to the section on unvented crawl spaces. (Modify IRC R408.2.)

Commercial climate zone changes.

Two successful commercial IECC changes (EC37 and EC40) modified text that included climatic references (HDD). Those two changes should be translated into the new climate zones, but otherwise unchanged. (Modify IECC 803.2.5.1 and 803.3.10.)

☐ REASON Continued (Attach additional sheets as necessary)

**PLEASE USE SEPARATE FORM FOR EACH PROPOSAL
SUBMITTAL AS A DOCUMENT ATTACHED TO AN EMAIL IS PREFERRED
SEE OTHER SIDE FOR DIRECTIONS ON WHERE TO SEND PUBLIC COMMENTS**

The following instructions are excerpts from the ICC Code Development Process for the International Codes. The full procedures can be downloaded from the ICC website at www.iccsafe.org.

PUBLIC COMMENTS SHOULD BE SENT TO THE FOLLOWING OFFICES VIA REGULAR MAIL OR EMAIL:

Code	Send to:
IBC	
IEBC	International Code Council
IECC	Chicago Regional Office
IFC	Attn: Diane Schoonover
IPMC	4051 West Flossmoor Road
IUWIC	Country Club Hills, IL 60478-5795
IPC	Fax: 708/799-0320
IPSDC	dschoonover@iccsafe.org
IFGC	
IZC	
ICCEC	
ICCPD	

IRC	International Code Council
IMC	Birmingham Regional Office
	Attn: Annette Sundberg
	900 Montclair Road
	Birmingham, AL 35213-1206
	Fax: 205/592-7001
	asundberg@iccsafe.org

Acronym	ICC Code Name
IBC	International Building Code
ICCEC	ICC Electrical Code
ICCPD	ICC Performance Code
IEBC	International Existing Buildings Code
IECC	International Energy Conservation Code
IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
IPC	International Plumbing Code
IPMC	International Property Maintenance Code
IPSDC	International Private Sewage Disposal Code
IRC	International Residential Code
IUWIC	International Urban-Wildland Interface Code
IZC	International Zoning Code

6.0 Public Comments

6.1 Intent: The public comment process gives attendees at the Final Action Hearing an opportunity to consider specific objections to the results of the public hearing and more thoughtfully prepare for the discussion for Final Action Consideration. The public comment process expedites the Final Action Consideration at the Final Action Hearing by limiting the items discussed to the following:

1. Consideration of items for which a public comment has been submitted; and
2. Consideration of items which received a successful assembly action at the public hearing.

6.2 Deadline: The deadline for receipt of a public comment to the results of the public hearing shall be announced at the public hearing but shall not be less than 30 days from the availability of the report of the results of the public hearing (see Section 5.8).

6.3 Form and Content of Public Comments: Any interested person, persons or group may submit a public comment to the results of the public hearing which will be considered when in conformance to these requirements. Each public comment to a code change proposal shall be submitted separately and shall be complete in itself. Each public comment shall contain the following information:

6.3.1 Public comment: Each public comment shall include the name, title, mailing address and telephone number of the public comment. If a group, organization or committee submits a public comment, an individual with prime responsibility shall be indicated. If a public comment is submitted on behalf of a client, group, organization or committee, the name and mailing address of the client, group, organization or committee shall be indicated.

6.3.2 Code Reference: Each public comment shall include the code change proposal number and the results of the public hearing on the code change proposal to which the public comment is directed.

6.3.3 Desired Final Action: The public comment shall indicate the desired final action as one of the following:

1. Approve the code change proposal (AS), or
2. Approve the code change proposal as modified (AM) by one or more specific modifications published in the Results of the Public Hearing or published in a public comment, or
3. Disapprove the code change proposal (D).

6.3.4 Supporting Information: The public comment shall include a statement containing a reason and justification for the desired final action on the code change proposal. A bibliography of any substantiating material submitted with a public comment shall be published with the public comment.

6.3.5 Number: Two copies of each public comment and two copies of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat. A copy of the public comment in electronic form may be requested.

6.4 Review: The Secretariat shall be responsible for reviewing all submitted public comments from an editorial and technical viewpoint similar to the review of code change proposals (see Section 4.2).

6.4.1 Incomplete Public Comment: When a public comment is submitted with incorrect format or without the required information, the public comment shall not be processed. The Secretariat shall notify the public commenter of the specific deficiencies and the public comment shall be held until the deficiencies are corrected, or the public comment shall be returned to the public commenter with instructions to correct the deficiencies with a final date set for receipt of the corrected public comment.

6.4.2 Duplications: On receipt of duplicate or parallel public

comments, the Secretariat may consolidate such public comments for Final Action Consideration. Each public commenter shall be notified of this action when it occurs.

6.4.3 Deadline: Public comments received by the Secretariat after the deadline set for receipt shall not be published and shall not be considered as part of the Final Action Consideration.

6.5 Publication: The list of public hearing results on code change proposals that have not been public commented and the code change proposals with public commented public hearing results shall constitute the final action agenda. The final action agenda shall be published and made available at least 30 days prior to Final Action Consideration.

The 2003/2004 Final Action Hearings will be held May 17-20, 2004 in Overland Park, KS